FIG.1

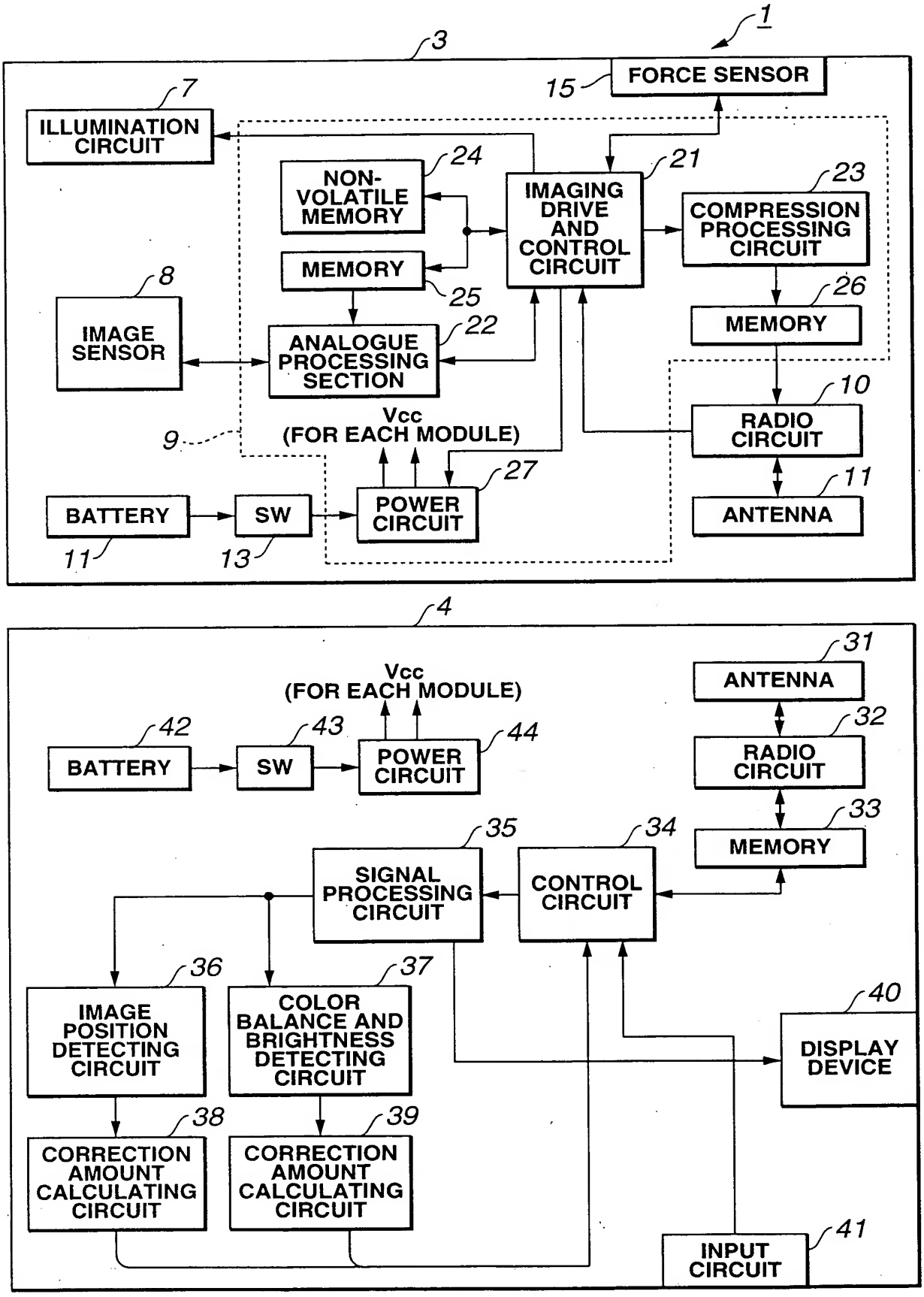

1
3
FORCE SENSOR
15
7
ILLUMINATION CIRCUIT
24
NON-VOLATILE MEMORY
21
IMAGING DRIVE AND CONTROL CIRCUIT
23
COMPRESSION PROCESSING CIRCUIT
MEMORY
25
8
IMAGE SENSOR
22
ANALOGUE PROCESSING SECTION
26
MEMORY
10
RADIO CIRCUIT
Vcc
(FOR EACH MODULE)
9
27
11
ANTENNA
BATTERY
SW
POWER CIRCUIT
11
13
4
31
ANTENNA
Vcc
(FOR EACH MODULE)
42
43
44
32
BATTERY
SW
POWER CIRCUIT
RADIO CIRCUIT
33
MEMORY
35
34
SIGNAL PROCESSING CIRCUIT
CONTROL CIRCUIT
36
37
40
IMAGE POSITION DETECTING CIRCUIT
COLOR BALANCE AND BRIGHTNESS DETECTING CIRCUIT
DISPLAY DEVICE
38
39
CORRECTION AMOUNT CALCULATING CIRCUIT
CORRECTION AMOUNT CALCULATING CIRCUIT
41
INPUT CIRCUIT

FIG.2

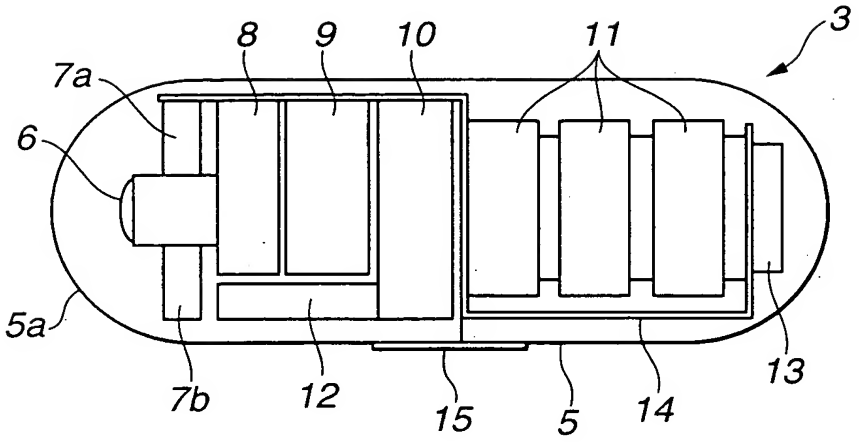


FIG.3

ADDRESS	DATA CONTENTS
000	GAIN SETTING
010	B GAIN SETTING
020	R GAIN SETTING
030	HORIZONTAL START POSITION
040	HORIZONTAL END POSITION
050	VERTICAL START POSITION
060	VERTICAL END POSITION
070	SHUTTER SPEED
080	FRAME RATE
090	PROCESSING FOR LIGHT SHADE OF COLOR
0A0	COLOR SATURATION
0B0	LUMINOUS CURRENT COMMAND
0C0	LUMINOUS TIME COMMAND
0D0	LIGHT-EMITTING DEVICE COMMAND
0E0	SENSOR ADJUSTMENT COMMAND
0F0	SENSOR GAIN COMMAND
100	COMPRESSION RATE COMMAND
110	MODE SWITCHING COMMAND
120	TIMER COMMAND

FIG.4

CLASSIFICATION	CODE	PARAMETER

COMMAND (01) — FOR COMMAND : NECESSARY PARAMETER

FOR MEMORY REWRITE : CAPSULE ID + ADDRESS DATA + DATA

DATA (02) — FOR DATA : CAPSULE ID + DATA

EXAMPLE : 01-0B-000-80

COMMAND TRANSMISSION - NON VOLATILE MEMORY REWRITE COMMAND - GAIN COMMAND - 80H

FIG.5

CODE	COMMAND
01	INQUIRY
02	REPORT UNIQUE NUMBER
03	CONNECTION REQUEST
04	REPORT END OF CONNECTION
05	SET CAPSULE ID
06	REPORT END OF SETUP
07	START IMAGING COMMAND
08	END IMAGING COMMAND
09	MODE SWITCHING COMMAND
0A	MEMORY REWRITE COMMAND
0B	NON-VOLATILE MEMORY REWRITE COMMAND
0C	NON-VOLATILE MEMORY READ OUT COMMAND
0D	MEMORY READ OUT COMMAND

FIG.6A

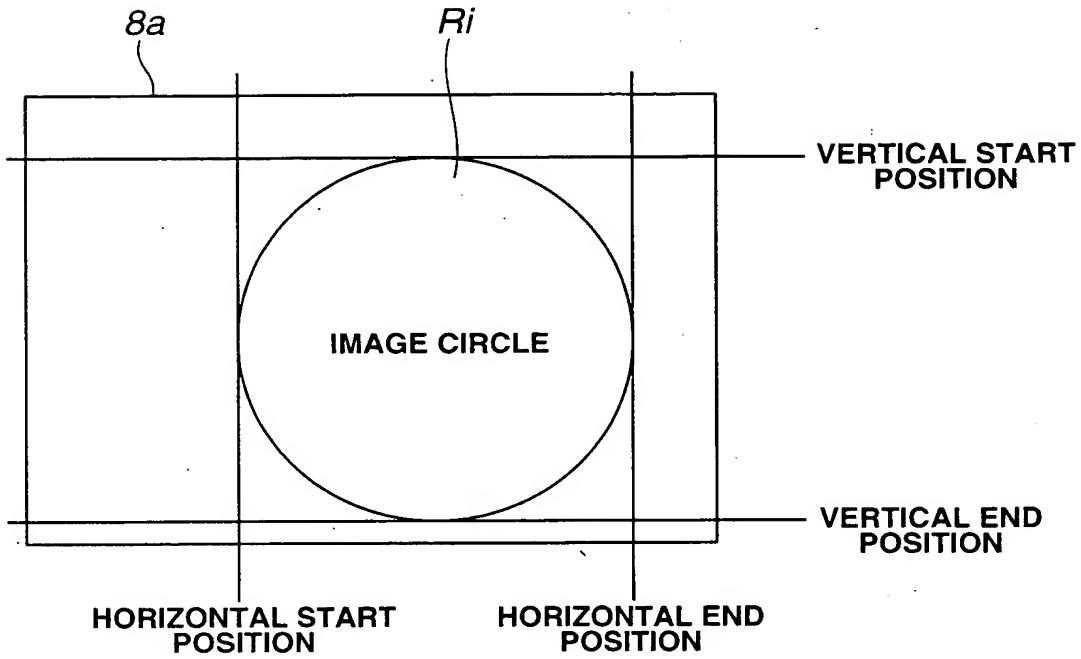

8a
Ri
VERTICAL START POSITION
IMAGE CIRCLE
VERTICAL END POSITION
HORIZONTAL START POSITION
HORIZONTAL END POSITION

FIG.6B

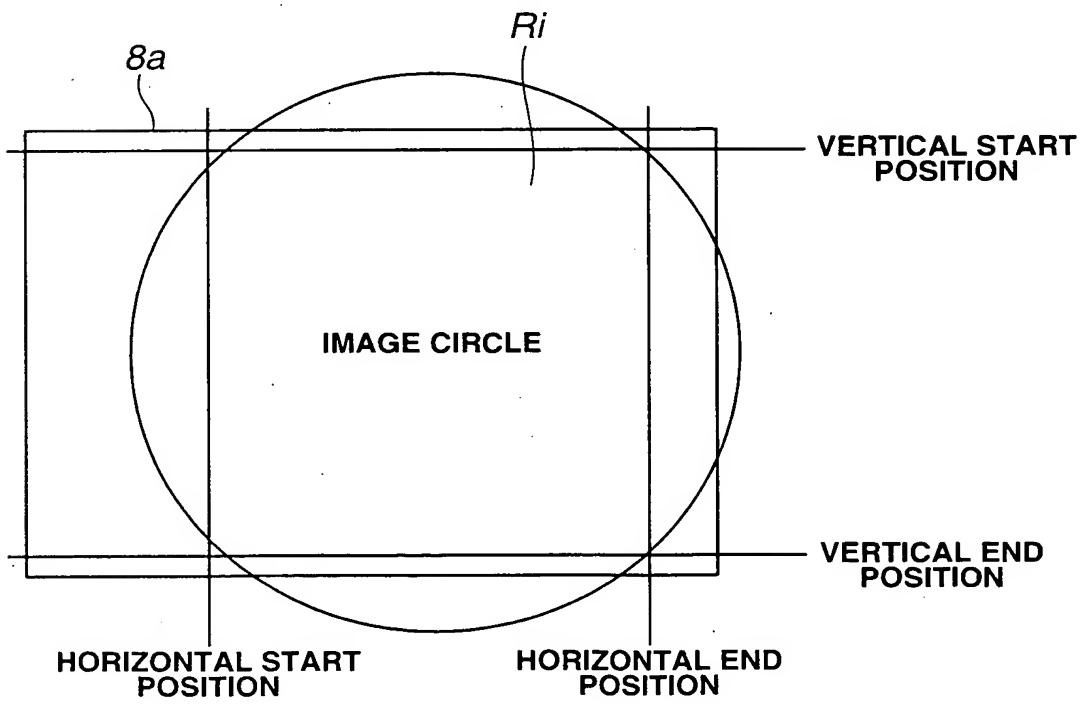

Ri
8a
VERTICAL START POSITION
IMAGE CIRCLE
VERTICAL END POSITION
HORIZONTAL START POSITION
HORIZONTAL END POSITION

FIG.7

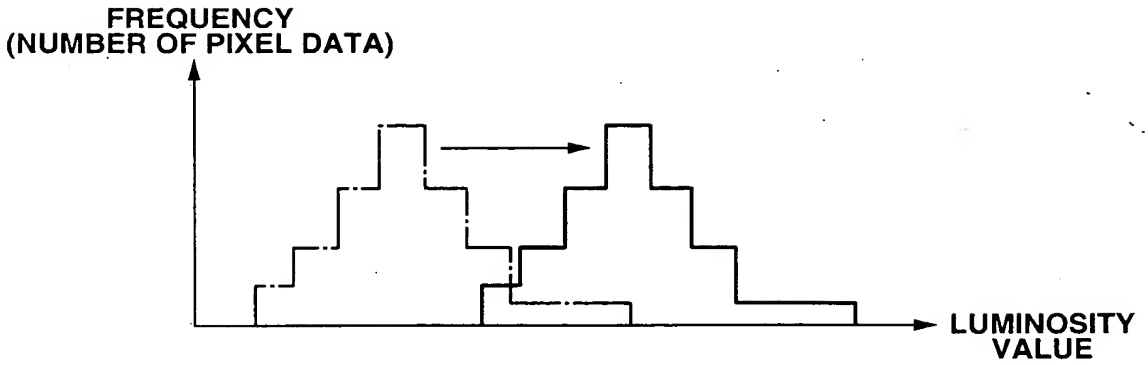

FREQUENCY
(NUMBER OF PIXEL DATA)
LUMINOSITY
VALUE

FIG.8

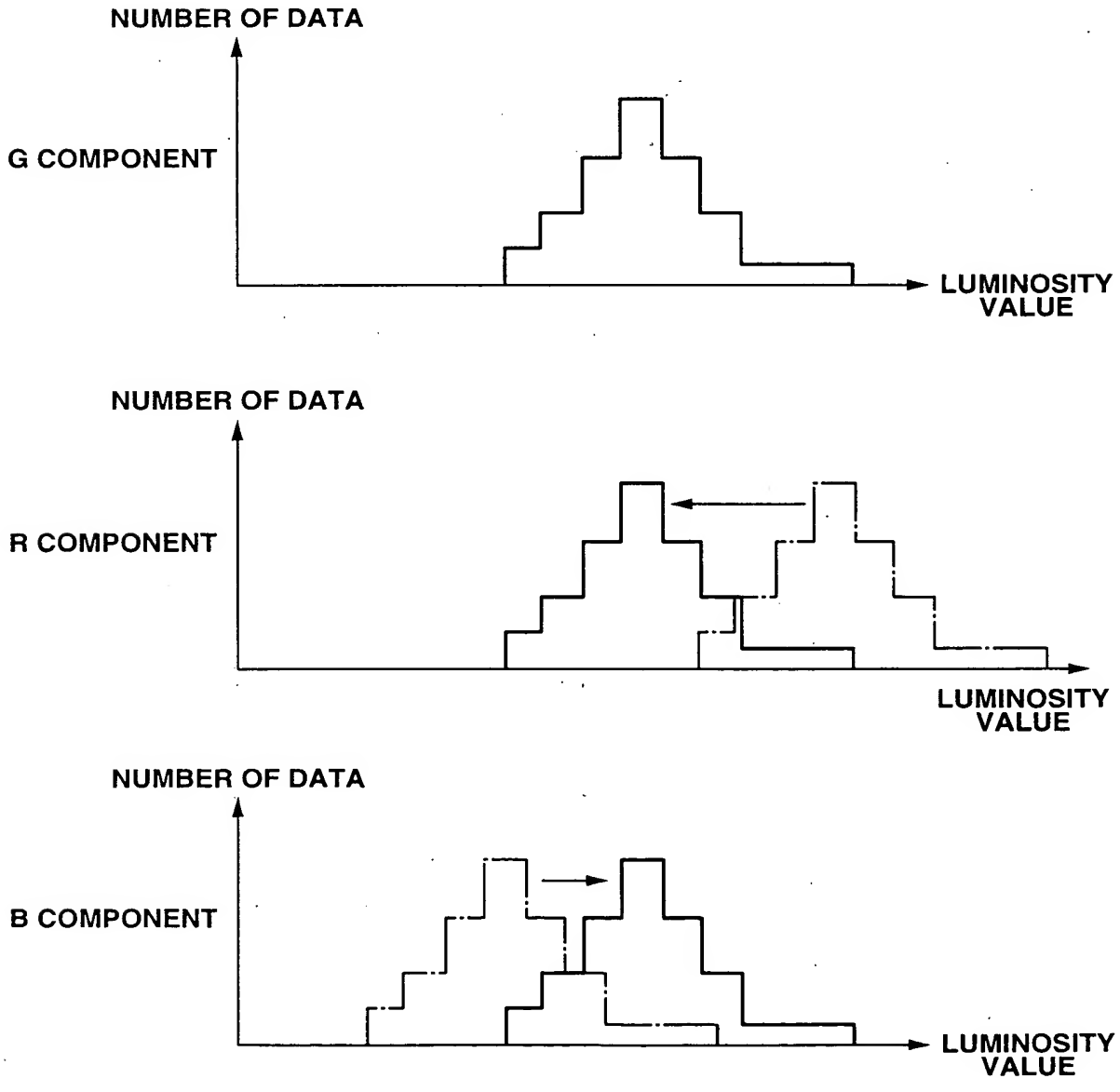

NUMBER OF DATA
G COMPONENT
LUMINOSITY
VALUE
NUMBER OF DATA
R COMPONENT
LUMINOSITY
VALUE
NUMBER OF DATA
B COMPONENT
LUMINOSITY
VALUE

FIG.9A

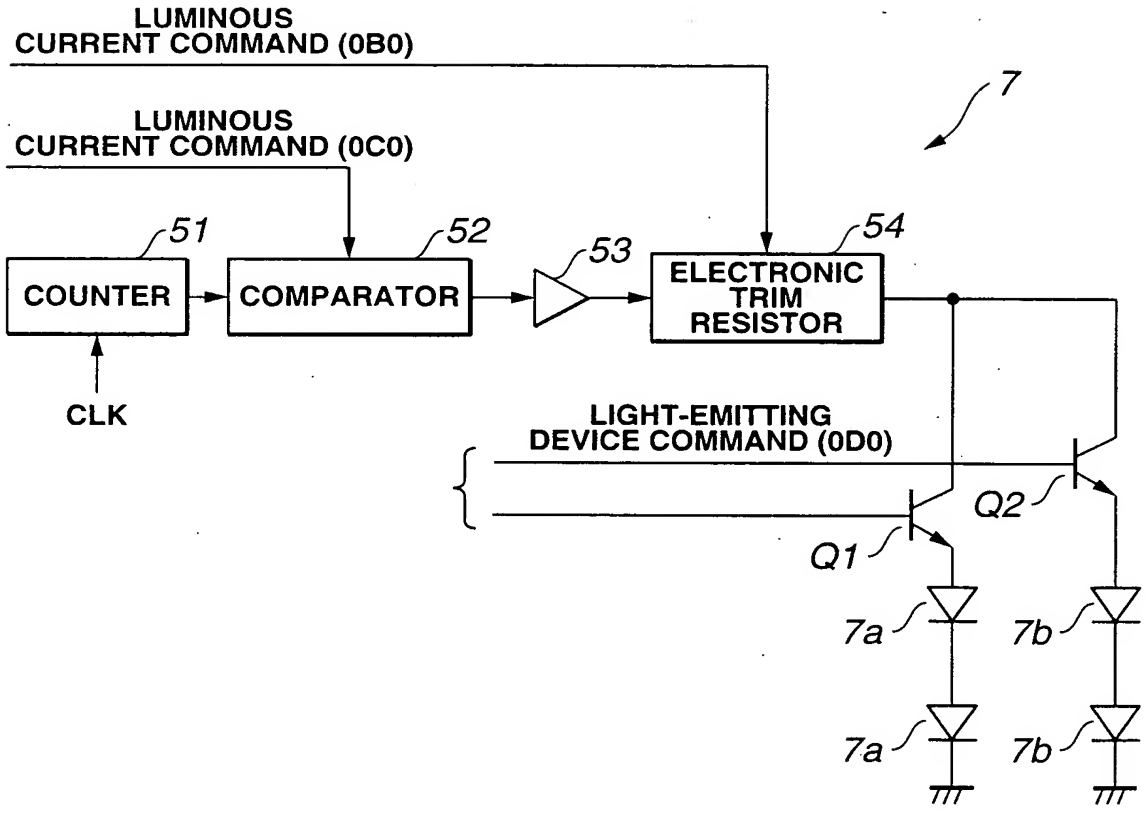

LUMINOUS CURRENT COMMAND (0B0)
LUMINOUS CURRENT COMMAND (0C0)
7
51
52
53
54
COUNTER
COMPARATOR
ELECTRONIC TRIM RESISTOR
CLK
LIGHT-EMITTING DEVICE COMMAND (0D0)
Q2
Q1
7a
7b
7a
7b

FIG.9B

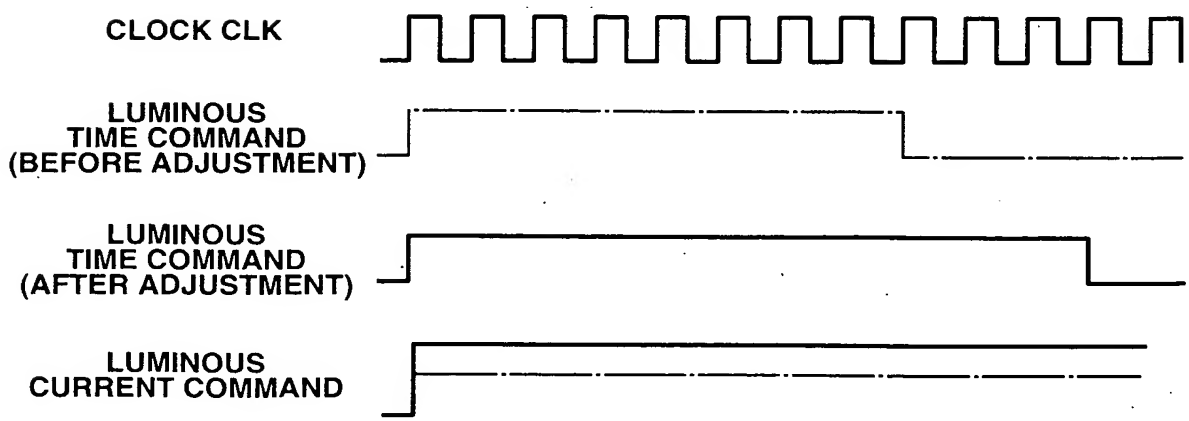

CLOCK CLK
LUMINOUS TIME COMMAND (BEFORE ADJUSTMENT)
LUMINOUS TIME COMMAND (AFTER ADJUSTMENT)
LUMINOUS CURRENT COMMAND

FIG.10

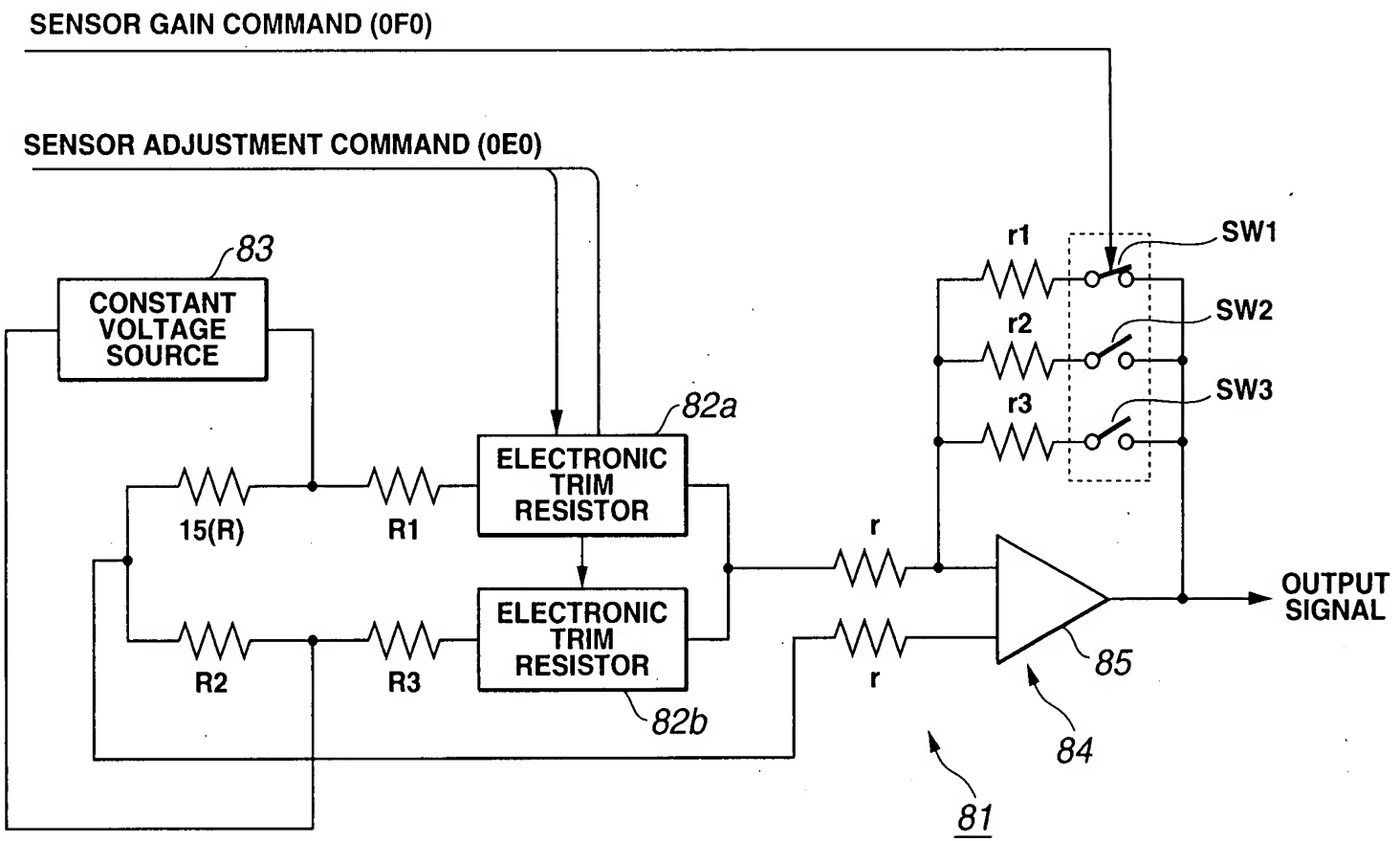

SENSOR GAIN COMMAND (0F0)
SENSOR ADJUSTMENT COMMAND (0E0)
83
CONSTANT VOLTAGE SOURCE
82a
ELECTRONIC TRIM RESISTOR
15(R)
R1
R2
R3
ELECTRONIC TRIM RESISTOR
82b
r
r
r1
r2
r3
SW1
SW2
SW3
OUTPUT SIGNAL
85
84
81

FIG.11

VALUE	CODE
01	ONE-SHOT IMAGE
02	CONTINUOUS IMAGING
03	TRANSMIT
04	READY TO RECEIVE
05	CLEAR MEMORY
06	CHECK MEMORY
07	TIMER 1
08	TIMER 2
09	TIMER 3
0AXX	SET ADDRESS
0B	RESET

FIG.12A

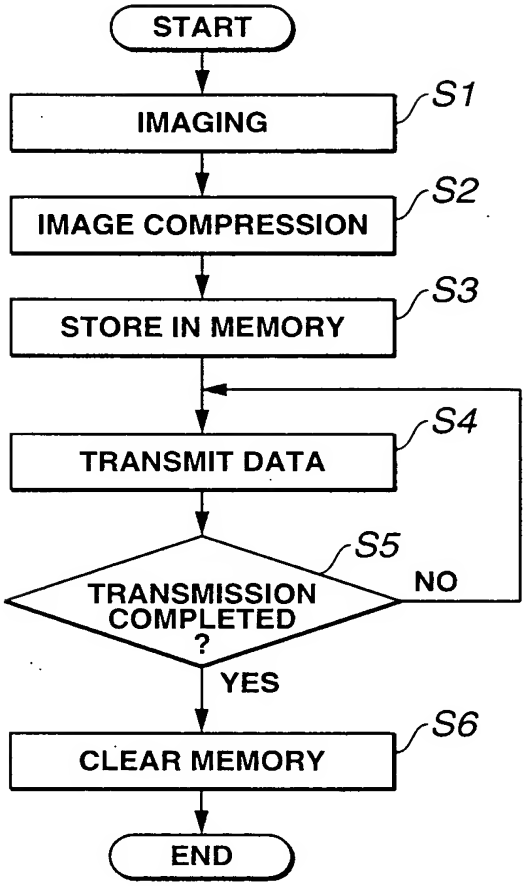


FIG.12B

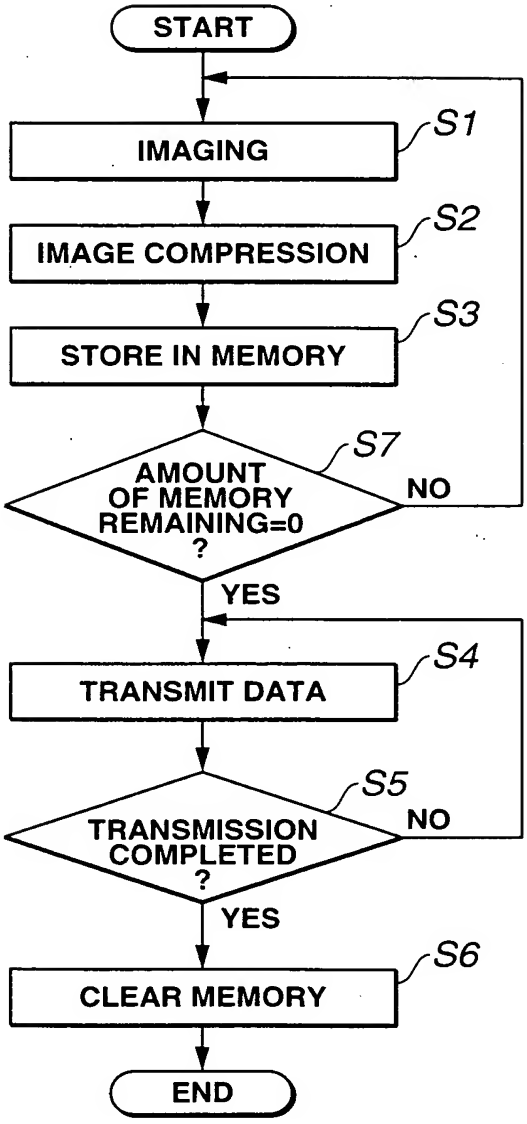


FIG.13

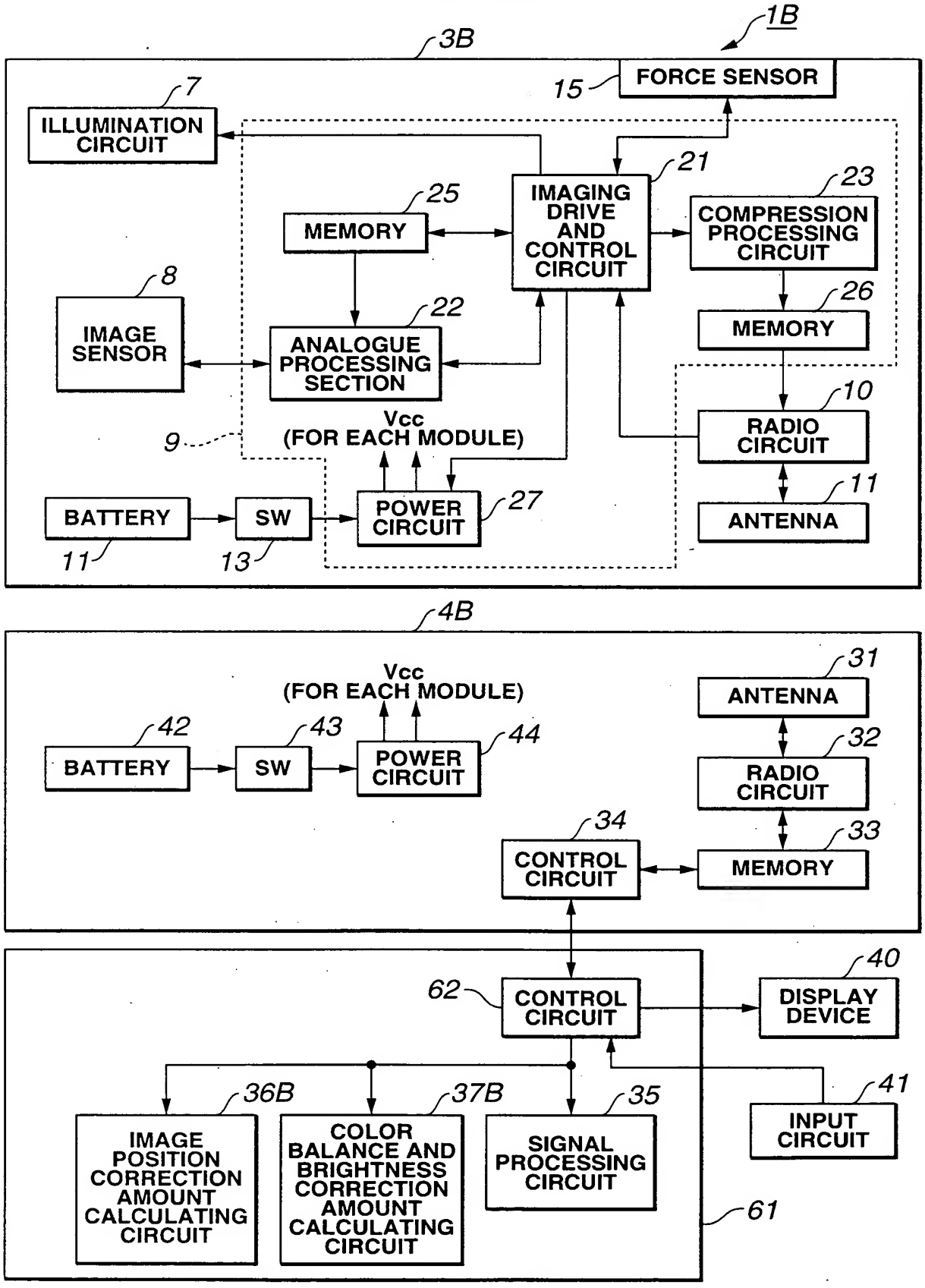

1B
3B
FORCE SENSOR
15
7
ILLUMINATION CIRCUIT
21
IMAGING DRIVE AND CONTROL CIRCUIT
23
COMPRESSION PROCESSING CIRCUIT
25
MEMORY
8
IMAGE SENSOR
22
ANALOGUE PROCESSING SECTION
26
MEMORY
10
RADIO CIRCUIT
Vcc
(FOR EACH MODULE)
9
11
ANTENNA
BATTERY
SW
POWER CIRCUIT
27
11
13
4B
Vcc
(FOR EACH MODULE)
31
ANTENNA
42
43
44
BATTERY
SW
POWER CIRCUIT
32
RADIO CIRCUIT
34
33
CONTROL CIRCUIT
MEMORY
40
62
CONTROL CIRCUIT
DISPLAY DEVICE
41
36B
37B
35
INPUT CIRCUIT
IMAGE POSITION CORRECTION AMOUNT CALCULATING CIRCUIT
COLOR BALANCE AND BRIGHTNESS CORRECTION AMOUNT CALCULATING CIRCUIT
SIGNAL PROCESSING CIRCUIT
61

FIG.14

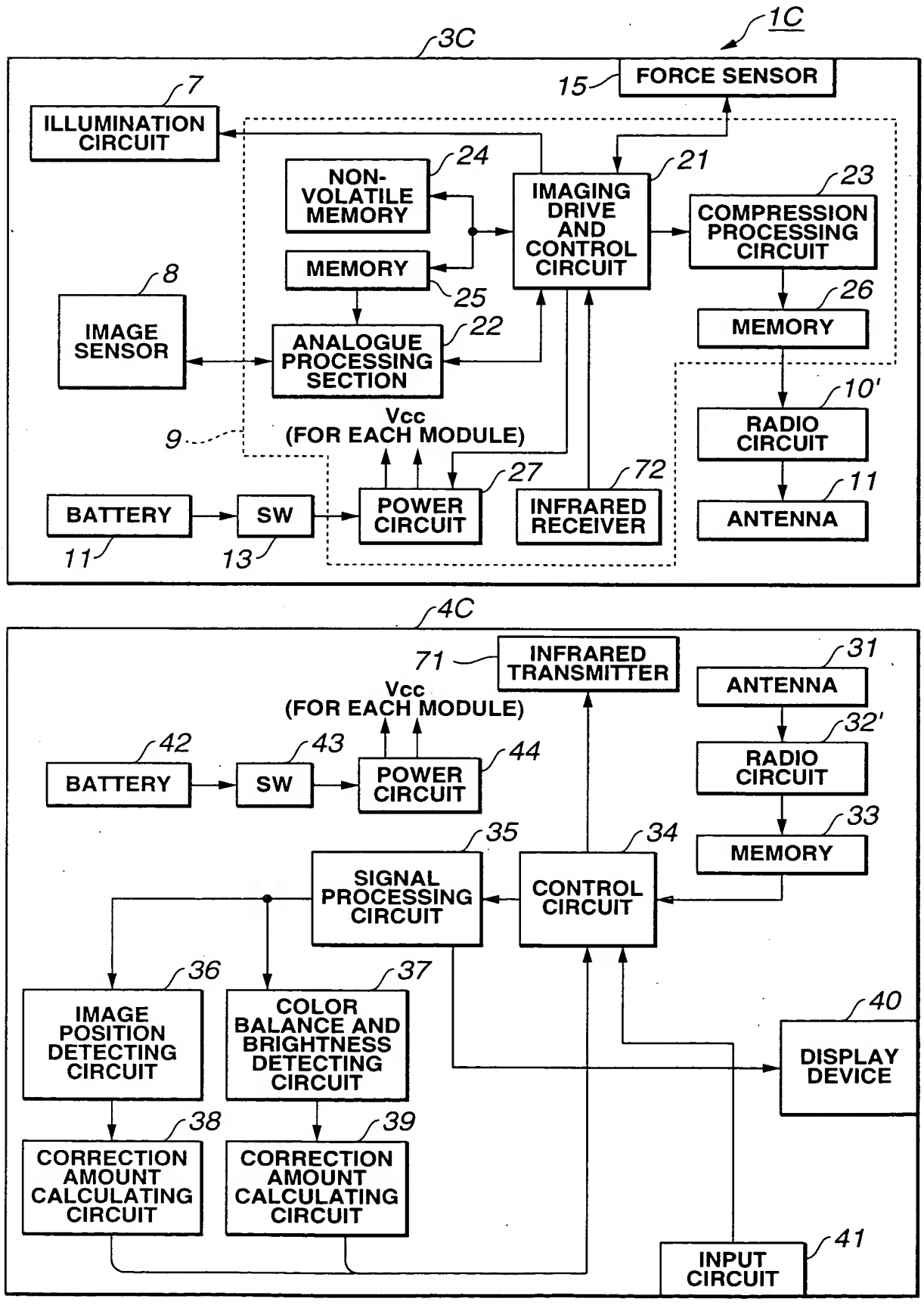
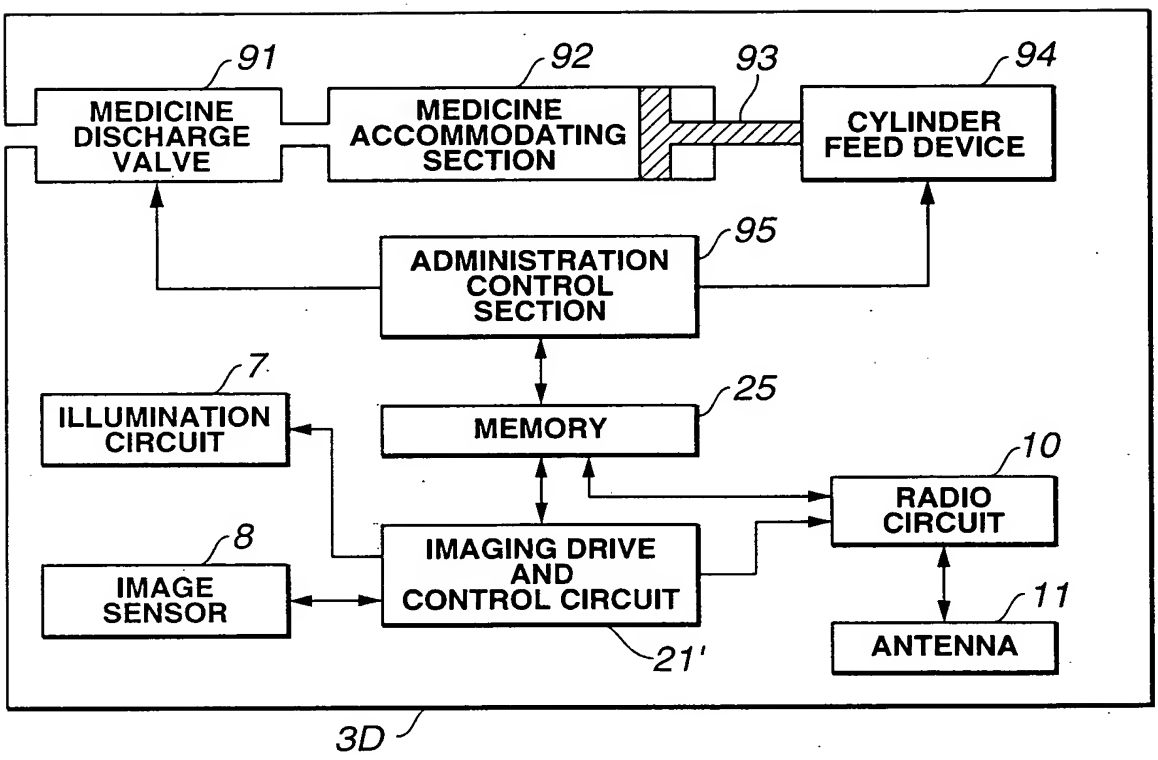
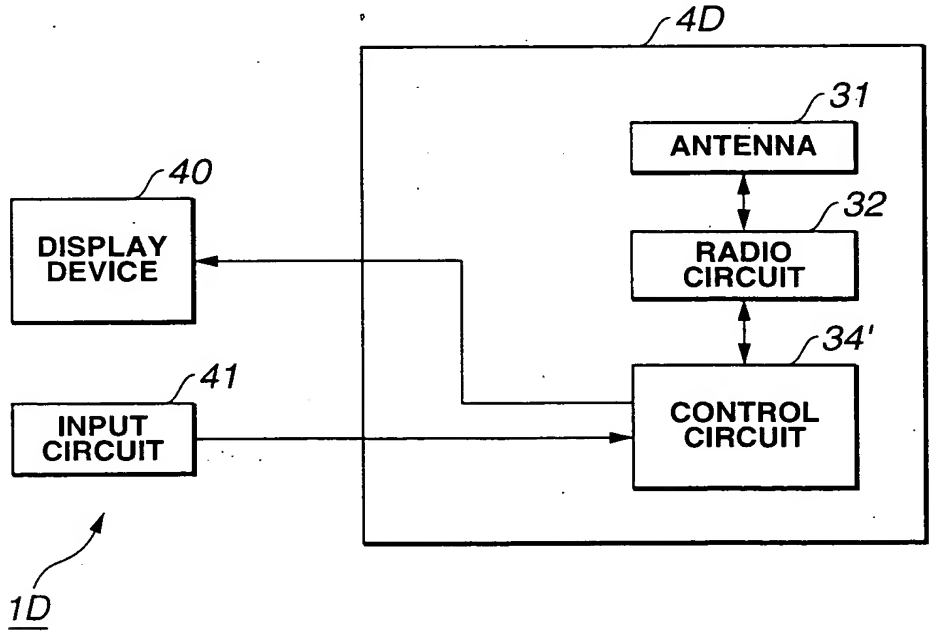

1C
3C
FORCE SENSOR
15
7
ILLUMINATION CIRCUIT
24
NON-VOLATILE MEMORY
21
IMAGING DRIVE AND CONTROL CIRCUIT
23
COMPRESSION PROCESSING CIRCUIT
MEMORY
25
8
IMAGE SENSOR
ANALOGUE PROCESSING SECTION
22
26
MEMORY
10'
RADIO CIRCUIT
9
Vcc (FOR EACH MODULE)
27
72
11
ANTENNA
BATTERY
SW
POWER CIRCUIT
INFRARED RECEIVER
11
13
4C
71
INFRARED TRANSMITTER
31
ANTENNA
Vcc (FOR EACH MODULE)
32'
RADIO CIRCUIT
42
43
44
BATTERY
SW
POWER CIRCUIT
33
MEMORY
35
34
SIGNAL PROCESSING CIRCUIT
CONTROL CIRCUIT
36
37
40
IMAGE POSITION DETECTING CIRCUIT
COLOR BALANCE AND BRIGHTNESS DETECTING CIRCUIT
DISPLAY DEVICE
38
39
CORRECTION AMOUNT CALCULATING CIRCUIT
CORRECTION AMOUNT CALCULATING CIRCUIT
41
INPUT CIRCUIT

FIG.15


91
92
93
94
MEDICINE DISCHARGE VALVE
MEDICINE ACCOMMODATING SECTION
CYLINDER FEED DEVICE
95
ADMINISTRATION CONTROL SECTION
7
ILLUMINATION CIRCUIT
25
MEMORY
10
RADIO CIRCUIT
8
IMAGE SENSOR
IMAGING DRIVE AND CONTROL CIRCUIT
21'
11
ANTENNA
3D


4D
31
ANTENNA
40
DISPLAY DEVICE
32
RADIO CIRCUIT
34'
41
INPUT CIRCUIT
CONTROL CIRCUIT
1D